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| 09/963,960 | 09/25/2001 | Thomas Burkhardt | 020431.0947 | 1567 |
| 53184 7590 07/26/2007 i2 TECHNOLOGIES US, INC. ONE i2 PLACE, 11701 LUNA ROAD DALLAS, TX 75234 | | | EXAMINER DESHPANDE, KALYAN K | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/963,960

Applicant(s)

BURKHARDT ET AL.

Examiner

Kalyan K. Deshpande

Art Unit

3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 9-16, 18-25 and 27-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-16, 18-25, and 27-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Introduction

1. The following is a non-final office action in response to the communications received on May 17, 2007. Claims 1-7, 9-16, 18-25, and 27-30 are now pending in this application. Claims 8, 17, and 26 have been previously cancelled.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 17, 2007 has been entered.

Response to Amendments

3. Applicants' amendments to claims 1-3, 9-10, 12, 18-19, 21, and 27 are acknowledged. Examiner raises new 35 U.S.C. 112 1st and 2nd paragraph rejections based on a reinterpretation of the claims based on amendments.

Response to Arguments

4. Applicants' arguments filed on May 17, 2007 have been fully considered but are not found persuasive in part and are moot in view of the new ground(s) of rejection in part. Applicants argue i) Jameson fails to teach a "database", ii) Jameson fails to teach "operating a plurality of processors in said database", iii) Jameson fails to teach "method

Art Unit: 3623

for solving a supply chain planning problem” and iv) further make general arguments that the recited claims are patentable.

Applicants’ arguments that Jameson fails to teach a “database” and Jameson fails to teach “operating a plurality of processors in said database” have been considered but are moot in view of the new ground(s) of rejection.

In response to Applicants’ argument Jameson fails to teach “method for solving a supply chain planning problem”, Examiner respectfully disagrees. Upon reconsideration, a resource allocation optimization problem taught by Jameson (see abstract) is the same as a supply chain planning problem.

In response to Applicants general arguments of patentability, Examiner respectfully disagrees. Applicant is reminded that these arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-7, 9-16, 18-25, and 27-30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to

Art Unit: 3623

reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1-7, 9-16, 18-25, and 27-30 recite “a plurality of distributed *physical* database partitions” (emphasis added). The Specification is silent as to a teaching of “physical” database partitions. It would have been unclear to one of ordinary skill in the art that the Applicants had possession of “physical” database partitions at the time of filing.

7. Claims 1-7, 9-16, 18-25, and 27-30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 1-7, 9-16, 18-25, and 27-30 recite “a plurality of distributed *physical* database partitions” (emphasis added). The Specification is silent as to a teaching of “physical” database partitions. One of ordinary skill in the art would not be enabled to use the present invention as the Specification fails to teach how one of ordinary skill in the art would create physical database partitions and further operate and associate a processor in the database and with the “physical” database partitions.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 3623

9. Claims 1-7, 9-16, 18-25, and 27-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-7, 9-16, 18-25, and 27-30 recite "a plurality of distributed *physical* database partitions" (emphasis added). It is unclear what a physical database partition or even a physical database is. For the purposes of examination, Examiner interprets this feature to mean "database partitions".

Claims 1-7, 9-16, 18-25, and 27-30 recite "operating a plurality of processors *in* said database, each of said plurality of processors associated with a respective partition of said plurality of distributed *physical* database partitions". It is unclear from this feature how a processor can operate "in" a database to execute database partitions. For the purposes of examination, Examiner interprets the processor operates said database.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-7, 9-16, 18-25, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jameson (U.S. Patent No. 6219649) in view of Christensen (U.S. Patent Publication No. 20020049759).

As per claim 1, Jameson teaches “a computer –implemented method for solving a supply chain planning problem (see abstract; where a resource allocation optimization method is disclosed. A resource allocation method is a supply chain planning problem.), comprising: decomposing the supply chain planning problem into a plurality of independent subproblems” (see Jameson column 7 lines 45-54; where the allocation problem is divided in to simpler sub-problems. Resource allocation is a part of supply chain management.) and “solving each of said plurality of said independent sub-problems by separate processes operating in parallel in said database” (see Jameson column 8 lines 8-25; where the sub-problems are solved to determine the optimal allocation point. Each sub-problem is solved independently. The matrices are stored on individual machines thus allowing the matrices to be stored across several computers. A distributed database is defined as a database that be distributed to several computers.). Jameson fails to explicitly teach organizing the sub-problems in to partitions and imploring processors to execute the database partitions. Christensen, in an analogous art, teaches “providing a plurality of distributed physical database partitions, each partition of said plurality of distributed physical database partitions associated with a respective independent data hunks of said supply chain planning problem” (see Christensen abstract and paragraph 46; where a plurality of database partitions are provided to for processing data hunks.), “operating a plurality of processors in said database, each processor of said plurality of processors associated with a respective partition of said plurality of distributed physical database partitions” (see Christensen abstract and paragraph 46; where parallel processing is used to

Art Unit: 3623

process the database partitions.), "forming a plurality of distributed sub-problem partitions, each of said distributed sub-problem partitions including a plurality of related items" (see Christensen abstract and paragraph 46; where the performance monitoring server partitions the database in to hunks. Hunks are related items. Hunks are the same thing as sub-problem partitions.), "loading data into a plurality of distributed physical database partitions, said data associated with said plurality of related items, and each of said distributed physical database partitions associated with a respective one of each of said distributed sub-problem partitions" (see Christensen abstract and paragraph 46; where data is in the distributed database partition. The parallel processing of the distributed database partitions enables faster performance of processing working data.). The advantage of such features is that it enables one of ordinary skill in the art to process information at greater efficiencies. It would have been obvious, at the time of the invention, to one of ordinary skill in the art to combine the features of "providing a plurality of distributed physical database partitions, each partition of said plurality of distributed physical database partitions associated with a respective independent data hunks of said supply chain planning problem", "operating a plurality of processors in said database, each processor of said plurality of processors associated with a respective partition of said plurality of distributed physical database partitions", "forming a plurality of distributed sub-problem partitions, each of said distributed sub-problem partitions including a plurality of related items", "loading data into a plurality of distributed physical database partitions, said data associated with said plurality of related items, and each of said distributed physical database partitions

Art Unit: 3623

associated with a respective one of each of said distributed sub-problem partitions” taught by Christensen to Jameson in order to increase the performance of the system, which is a goal of Christensen (see abstract).

As per claim 2, Jameson discloses:

The method of Claim 1, further comprising:

Forming a plurality of clusters, each of said clusters including said plurality of related items (see column 8 lines 5-12; where optimal points are clustered and the clusters include the scenario, where scenarios are a set of related events); and

Forming said plurality of distributed sub-problem from said plurality of clusters (see column 5 lines 35-40 and column 11 lines 3-15, column 7 lines 45-54, and column 8 lines 19-21; where the system accounts for larger sub-problems. Sub-problems are defined as larger sub-problems per the specification (see specification p. 9 line 16). Further, clusters are combined to create larger clusters or larger sub-problems. The sub-problems consist of scenarios, where a scenario is a set of related events).

As per claim 3, Jameson teaches the number of sub-problems is equal to the number of clusters (see column 7 lines 58-67, column 8 lines 1-8, and column 19 lines 1-46), however fails to explicitly teach “the number of distributed data is equal to the number of physical database partitions”. Christensen, in an analogous art, teaches “the number of distributed data is equal to the number of physical database partitions”

Art Unit: 3623

(see paragraph 31; where the number of related items is equal to the number of database partitions set to be solved.). The advantage of such features is that it enables one of ordinary skill in the art to process information at greater efficiencies. It would have been obvious, at the time of the invention, to one of ordinary skill in the art to combine the feature of "the number of distributed data is equal to the number of physical database partitions" taught by Christensen to Jameson in order to increase the performance of the system, which is a goal of Christensen (see abstract).

As per claim 4, Jameson discloses:

The method of Claim 1, wherein said plurality of related items are related by one or more pre-define relationship rules (see column 10 lines 50-68, column 11 lines 1-29, and figures 6-8; where all of the elements of a scenario are processed under pre-defined rules).

As per claim 5, Jameson teaches the method of Claim 2, wherein the forming said plurality of said clusters further comprises a step of storing said clusters (see column 18 lines 49-61; where cluster arguments and function calls are stored to increase performance of future processing by calling stored results). Jameson fails to disclose the step of forming said plurality of said clusters further comprises a step of assigning a CLUSTER_ID to each item of said plurality of related items. It is old and well-known in data management to assign an identification value to items stored in a database. The step of storing a cluster automatically gives it a CLUSTER_ID in a database row. The advantage of assigning an identification value to items stored in a database is that the item and its respective row can be more efficiently found in the

Art Unit: 3623

database by simply querying the database for the assigned identification value. It would have been obvious, at the time of the invention, for one of ordinary skill in data management to assign an identification value to the clusters stored in Jameson's system in order to more efficiently find the clusters and their stored results.

As per claim 6, Jameson teaches the step of forming a plurality of distributed sub-problem partitions from said plurality of clusters (see column 7 lines 45-58 and column 24 lines 61-67; where clustering is used to divide resource allocation problems into simpler sub-problems. Using simpler sub-problems enhances the system to run faster and simpler. Furthermore, multiple processors can be used to solve each of the sub-problems.). Although Jameson teaches creating sub-problems in order to facilitate computational time and complexity, Jameson fails to explicitly teach creating sub-problem objects of the same size. It is old and well-known in the art to equally size objects for processing. The advantage of creating objects of the same size is that it increases the computational speed and minimizing the computational complexity. It would have been obvious, at the time of the invention, to one of ordinary skill in the art to take the teachings of Jameson to divide an allocation problem into sub-problems and modify Jameson to include the feature of equally sizing the sub-problem partitions in order to increase the system speed and minimizing the computational complexity, which is a goal of Jameson (see column 7 lines 45-57 and column 24 lines 61-67).

As per claim 7, Jameson discloses:

The method of Claim 1, wherein the step of solving each of said plurality of said distributed sub-problems further comprises a step of solving said

Art Unit: 3623

plurality of independent sub-problems in parallel (see column 24 lines 61-67; where the use of multiple processors is desirably for the parallel execution of multiple instances of clusters).

Claims 9-16, 18-25, and 27 recite a “computer-implemented system for solving a supply chain planning problem” and “software for solving a supply chain planning problem” taught by Jameson (see column 1 lines 13-14 and column 5 lines 35-40).

Claims 10-16, 18-25, and 27 further recite limitations already addressed by the rejections of claims 1-7 and 9; therefore the same rejection applies to this claim.

12. Claims 28-30 rejected under 35 U.S.C. 103(a) as being unpatentable over Jameson (U.S. Patent No. 6219649) in view of Christensen (U.S. Patent Publication No. 20020049759) and in further view of Chopra et al. (Chopra, Sunil; Meindl, Peter; Supply Chain Management: Strategy, Planning, and Operation, Prentice Hall, October 2000).

As per claim 28, Jameson teaches “said supply chain planning problems comprise problems selected from the group consisting of demand forecasting” (see column 5 lines 13-34 and column 19 lines 1-45; where uncertain constraints are handled and a resource allocation problem in terms of an forecasted demand uncertainty is provided.). Jameson fails to explicitly teach supply chain problems of “service level planning” and “replenishment planning”. Chopra, in an analogous art, teaches solving supply chain problems for “service level planning” and “replenishment planning” (see pp. 179-220; where methods for cycle service level planning and replenishment policies is discussed). Chopra further teaches supply chain problems of demand forecasting (see pp. 67-100; where planning for demand using demand

Art Unit: 3623

certainty and demand uncertainty is done). The advantage of solving supply chain problems of demand forecasting, service level planning, and replenishment planning is that it facilitates the availability of product in light of the supply and demand variability. It would have been obvious, at the time of the invention, to combine the teachings supply chain management with regard to "supply chain problems consisting of demand forecasting, service level planning, and replenishment planning" of Chopra to Jameson in order to facilitate the availability of product in light of the supply and demand variability, which is a goal of Chopra (see p. 179-180).

Claims 29-30 recite a "computer-implemented system for solving a supply chain planning problem" and "software for solving a supply chain planning problem" taught by Jameson (see column 1 lines 13-14 and column 5 lines 35-40). Claims 29-30 further recite limitations already addressed by the rejection of claim 28; therefore the same rejection applies to these claims.

Conclusion

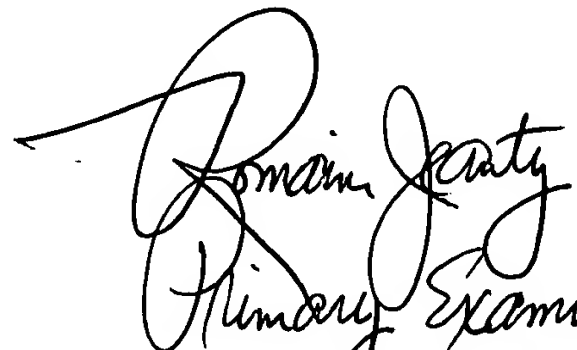
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kalyan K. Deshpande whose telephone number is (571)272-5880. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3623

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kko


Romaine Janty
Primary Examiner
Art Unit 3623